

AMENDMENT UNDER 37 C.F.R. § 1.111
U.S. APPLICATION NO.: 09/987,814
ATTORNEY DOCKET NO.: Q63700

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (currently amended): An apparatus for provider connection, in a mobile communication system including a communication terminal on a mobile device side, a mobile device, an adapter for mobile data communication, a mobile switch and an access server, which is provided in said mobile switch, ~~characterized in that~~ wherein the apparatus comprises:

a first detection circuit for discriminating a message in a TCP/IP packet sent from said access server and detecting an end of data transfer;

a second detection circuit for discriminating a message in a TCP/IP packet sent from said communication terminal on a mobile device side, which is connected to said mobile device and said adapter for mobile data communication, and detecting that said communication terminal on a mobile device side has recognized an end of data transfer; and

a line signal transmitting and receiving circuit for providing an indication to said mobile switch via a signal repeating device based on detection results of said first and said second detection circuits to release talking channels for TCP/IP data communication within a mobile communication network.

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2. (original): An apparatus for provider connection recited in claim 1, wherein said access server is an interface device between a serial communication line and an internet protocol communication line, and is a device provided on a side of an internet service provider, and

in case that a value of a logical product of the detection results of said first and said second detection circuits is true, said line signal transmitting and receiving circuit provides an indication to said mobile switch via said signal repeating device to release the talking channels for TCP/IP data communication within said mobile communication network.

3. (original): An apparatus for provider connection recited in claim 1, further comprising means for releasing talking channels for TCP/IP data communication within said mobile communication network when the data transfer of TCP/IP data communication ends.

4. (currently amended): An apparatus for provider connection, in a mobile communication system including a communication terminal on a mobile device side, a mobile device, an adapter for mobile data communication, a mobile switch and an access server, which is provided in said mobile switch, wherein ~~characterized in that~~ the apparatus comprises:

a first detection circuit for discriminating a message in a TCP/IP packet sent from said communication terminal on a mobile device side, which is connected to said mobile device and said adapter for mobile data communication, and detecting an end of data transfer;

a second detection circuit for discriminating a message in a TCP/IP packet sent from said

access server and detecting that a communication terminal on an internet side has recognized an end of data transfer; and

a line signal transmitting and receiving circuit for providing an indication to said mobile switch via a signal repeating device based on detection results of said first and said second detection circuits to release talking channels for TCP/IP data communication within a mobile communication network.

5. (original): An apparatus for provider connection recited in claim 4, wherein said access server is an interface device between a serial communication line and an internet protocol communication line, and is a device provided on a side of an internet service provider, and

in case that a value of a logical product of the detection results of said first and said second detection circuits is true, said line signal transmitting and receiving circuit provides an indication to said mobile switch via said signal repeating device to release the talking channels for TCP/IP data communication within said mobile communication network.

6. (original): An apparatus for provider connection recited in claim 4, further comprising means for releasing talking channels for TCP/IP data communication within said mobile communication network when the data transfer of TCP/IP data communication ends.

7. (currently amended): A mobile communication system including a communication

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terminal on a mobile device side, a mobile device, an adapter for mobile data communication, a mobile switch and an access server, wherein ~~characterized in that~~ an apparatus for provider connection, which is provided in said mobile switch, comprises:

a first detection circuit for discriminating a message in a TCP/IP packet sent from said access server and detecting an end of data transfer;

a second detection circuit for discriminating a message in a TCP/IP packet sent from said communication terminal on a mobile device side, which is connected to said mobile device and said adapter for mobile data communication, and detecting that said communication terminal on a mobile device side has recognized an end of data transfer; and

a line signal transmitting and receiving circuit for providing an indication to said mobile switch via a signal repeating device based on detection results of said first and said second detection circuits to release talking channels for TCP/IP data communication within a mobile communication network.

8. (currently amended): A mobile communication ~~apparatus~~ system recited in claim 7, wherein said access server is an interface device between a serial communication line and an internet protocol communication line, and is a device provided on a side of an internet service provider, and

in case that a value of a logical product of the detection results of said first and said second detection circuits is true, said line signal transmitting and receiving circuit of said

apparatus for provider connection provides an indication to said mobile switch via said signal repeating device to release the talking channels for TCP/IP data communication within said mobile communication network.

9. (currently amended): A mobile communication ~~apparatus~~ system recited in claim 7, further comprising means for releasing talking channels for TCP/IP data communication within said mobile communication network when the data transfer of TCP/IP data communication ends.

10. (currently amended): A mobile communication system including a communication terminal on a mobile device side, a mobile device, an adapter for mobile data communication, a mobile switch and an access server, wherein ~~characterized in that~~ an apparatus for provider connection, which is provided in said mobile switch, comprises:

a first detection circuit for discriminating a message in a TCP/IP packet sent from said communication terminal on a mobile device side, which is connected to said mobile device and said adapter for mobile data communication, and detecting an end of data transfer;

a second detection circuit for discriminating a message in a TCP/IP packet sent from said access server and detecting that a communication terminal on an internet side has recognized an end of data transfer; and

a line signal transmitting and receiving circuit for providing an indication to said mobile switch via a signal repeating device based on detection results of said first and said second

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detection circuits to release talking channels for TCP/IP data communication within a mobile communication network.

11. (original): A mobile communication system recited in claim 10, wherein said access server is an interface device between a serial communication line and an internet protocol communication line, and is a device provided on a side of an internet service provider, and in case that a value of a logical product of the detection results of said first and said second detection circuits is true, said line signal transmitting and receiving circuit of said apparatus for provider connection provides an indication to said mobile switch via said signal repeating device to release the talking channels for TCP/IP data communication within said mobile communication network.

12. (currently amended): A mobile communication ~~apparatus~~ system recited in claim 10, further comprising means for releasing talking channels for TCP/IP data communication within said mobile communication network when the data transfer of TCP/IP data communication ends.

13. (currently amended): A mobile TCP/IP data communication method in a mobile communication system including a communication terminal on a mobile device side, a mobile device, an adapter for mobile data communication, a mobile switch and an access server, ~~characterized in that~~ wherein:

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a message in a TCP/IP packet sent from said access server is discriminated, and an end of data transfer is detected;

a message in a TCP/IP packet sent from said communication terminal on a mobile device side, which is connected to said mobile device and said adapter for mobile data communication, is discriminated, and it is detected that said communication terminal on a mobile device side has recognized an end of data transfer; and

in case that a value of a logical product of the detection results of said first and said second detection circuits is true, an indication is provided to said mobile switch via a signal repeating device to release talking channels for TCP/IP data communication within a mobile communication network.

14. (currently amended): A mobile TCP/IP data communication method in a mobile communication system including a communication terminal on a mobile device side, a mobile device, an adapter for mobile data communication, a mobile switch and an access server, ~~characterized in that~~ wherein:

a message in a TCP/IP packet sent from said communication terminal on a mobile device side, which is connected to said mobile device and said adapter for mobile data communication, is discriminated, and an end of data transfer is detected;

a message in a TCP/IP packet sent from said access server is discriminated, and it is detected that a communication terminal on an internet side has recognized an end of data

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transfer; and

in case that a value of a logical product of the detection results of said first and said second detection circuits is true, an indication is provided to said mobile switch via a signal repeating device to release talking channels for TCP/IP data communication within a mobile communication network.